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CNC CHARLESTON
5090.3a

NO FURTHER ACTION (NFA) REVIEW OF UNDERGROUND STORAGE TANK (UST)
ASSESSMENT REPORT DATED 22 MAY 1998 FOR QUARTERS W CNC CHARLESTON SC
07/14/1998
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



14 July 1998

2600 Bull Street
Columbia, SC 29201-1708

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Department of the Navy
Southern Division NFEC
P.O. Box 190010
North Charleston, SC 29419-9010
Attn: Mr. Gabriel Magwood


Re: Underground Storage Tank Assessment Report dated 22 May 1998
Quarters "W" Housing (Site Identification # 15405-General File)
Charleston Naval Complex/Charleston Naval Base
Charleston, SC
Charleston County

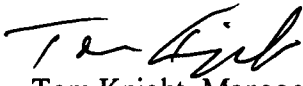
Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides a narrative describing closure activities and analytical results of environmental sampling to determine if releases have occurred as a result of operation of the referenced vessel and/or associated piping system. The analytical results provided indicate reportable concentrations of BTEX and PAH compounds were detected in soil grab samples obtained from the UST excavation and the piping run excavation. The reported concentrations are below levels proposed in the SCAP (Soil Corrective Action Plan, amended July 1997). Based on review of the employed closure activities and sampling results it appears that no additional endeavors for remedial actions and/or contaminant characterization is warranted for Quarters "W" Housing at this time. Please be aware this statement pertains only to the portion of the facility addressed in the referenced document and does not apply to other areas of the facility and/or any other potential regulatory violations. The Department retains the authority to request additional assessments and/or remedial endeavors, as appropriate, if future conditions or information warrant and are deemed necessary.

Should you have any questions please contact me at (803) 734-5328.

Sincerely,


Paul L. Bristol, Hydrogeologist
Groundwater Quality Section
Bureau of Water


Tom Knight, Manager
Groundwater Quality Section
Bureau of Water

cc: Trident District EQC



DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, S.C. 29419-9010

Li 5.28.98

67.14.98

NFA

5090
Code 1849
22 May 1998

Mr. Paul Bristol
South Carolina Department of Health
And Environmental Control
Division of Underground Storage Tank
2600 Bull Street
Columbia, SC 29201

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MAY 26 1998

UST ASSESSMENT REPORTS FOR CHARLESTON
CHARLESTON, SC

Water Monitoring, Assessment &
Protection Division
NAVAL COMPLEX

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of Underground Storage Tanks D, J, O, P, Q, R, S, T and W located at the Charleston Naval Complex, Charleston, SC.

If you have any questions please contact me at (843) 820-7307.

Sincerely,


GABRIEL L. MAGWOOD
Petroleum/UST

Encl:
(1) Assessment Report

D
J
O
P
Q
R
S
T
W

W NFA 7.14.98

Li 5.24.98
Lo 7.14.98

South Carolina Department of Health and Environmental Control (S.C.D.H.E.C.)
Underground Storage Tank (UST) Assessment Report

NFA

Submit Completed Form to:

Date Received

State Use Only

UST Regulatory Section
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 734-5331

I OWNERSHIP OF UST(S)

Agency/Owner: Southern Division, Naval Facilities Engineering Command, Caretaker Site Office

Mailing Address: P.O. Box 190010

City: N. Charleston State: SC Zip Code: 29419-9010

Area Code: 843 Telephone Number: 743-9985 Contact Person: Henry N. Shepard II, P. E.

II SITE IDENTIFICATION AND LOCATION

Site I.D. #: Unregulated

Facility Name: Charleston Naval Base Complex, Housing Quarters W

Street Address: 1455 Hobson Avenue

City: North Charleston, 29405-2413 County: Charleston

III CLOSURE INFORMATION

Closure Started: 10 April 1998

Closure Completed: 16 April 1998

Number of USTs Closed: 1

N/A

Consultant

SPORTENVDETHASN

UST Removal Contractor

IV. CERTIFICATION (Read and Sign after completing entire submittal)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.

Henry Shepard II, P. E.

Name (Type or Print)

Signature

H. N. Shepard II for

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MAY 26 1998

Water Monitoring, Assessment &
Protection Division

V. UST INFORMATION

- A. Product.....
- B. Capacity.....
- C. Age.....
- D. Construction Material.....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Visible Corrosion or Pitting Y/N.....
- K. Visible Holes Y/N.....

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Fuel oil					
1,000 gal					
Unk.					
Steel					
3/98					
5' 6"					
N					
N					
R					
N					
N					

- L. Method of disposal for any USTs removed from the ground (attach disposal manifests)

UST Quarters W was removed, drained, cut open at both ends, and cleaned with a steam cleaner. It was then cut up for recycling as scrap metal. (See Attachment III.)

- M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)

The sludge, waste water, and residual fuel oil were recycled.

- N. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

UST Quarters W was covered with a protective coating of pitch. The tank was in sound condition and contained no holes.

VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- D. Type of System P/S.....
- E. Was Piping Removed from the Ground? Y/N....
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....

Note 1: UST Quarters W provided heating fuel oil to housing Quarters W and X.

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Copper & Steel 20' & 57'				
See note 1				
2 see note 1				
S				
Y				
N				
N				
Unk.				

- I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

The steel ventilation pipe contained mild corrosion throughout its length, but no holes were found. The copper supply and return lines were in good condition.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Quarters X and W were built sometime between the late 1930s to 1940s. They served as housing for Naval families until base closure.

VIII. SITE CONDITIONS

Yes No Unk

<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>		X	
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>		X	
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)?</p> <p>_____</p>		X	
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p> <p>_____</p>		X*	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness.</p>		X**	

* All excavated soil was returned to the tank pit.

** No groundwater was encountered.

IX. SAMPLE INFORMATION

S.C.D.H.E.C. Lab Certification Number 10120

[illegible]

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store (preserve) the samples.

After the removal of UST Quarters W, soil samples were taken. Sampling was performed in accordance with SC DHEC R.61-92 Part 280 and SC DHEC UST Assessment Guidelines.

Sample jars were prepared by the testing laboratory. The grab method was utilized to fill the sample containers leaving as little head space as possible and immediately capped. The samples were extracted at the tank ends.

The samples were marked, logged, and immediately placed in sample coolers packed with ice to maintain an approximate temperature of 4° C. Tools were thoroughly cleaned and decontaminated with organic-free soap and water after each sample.

The samples remained in the custody of SPORTENVDETHASN until they were transferred to General Engineering Laboratories for analysis as documented in the attached Chain-of-Custody Record.

The laboratory soil used for the soil trip blanks that accompanied the samples was taken from the wrong container. This soil exhibited contamination of naphthalene at approximately 6 ug/kg, toluene at ~1 ug/kg, and xylenes at ~1 ug/kg. Although this had no effect on the soil samples, the condition renders the use of these trip blanks as unsatisfactory for quality control purposes. Accordingly, the data is not included with the site samples. The problem has been corrected and the unsatisfactory soil has been removed from the lab.

XI. RECEPTORS

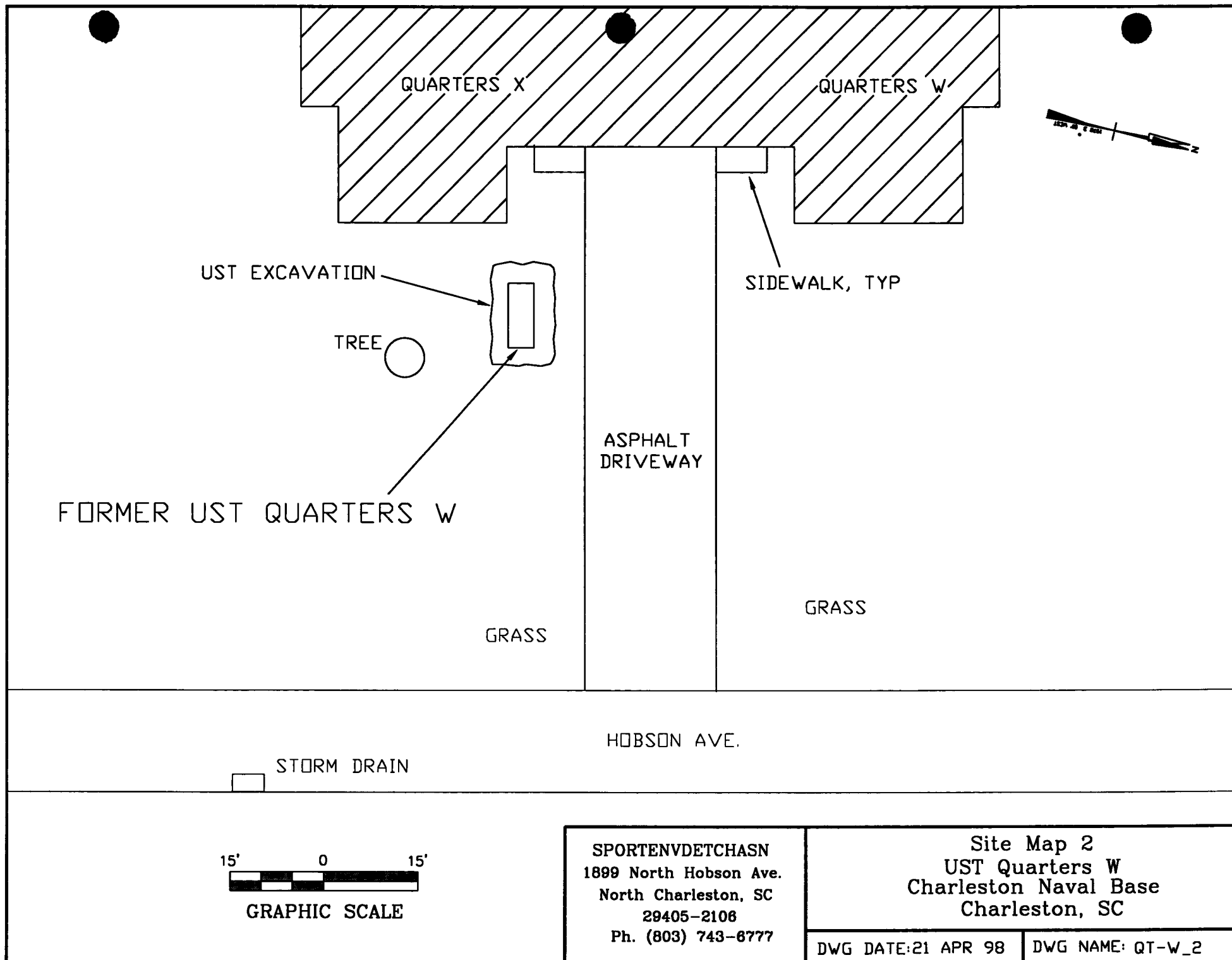
Yes No

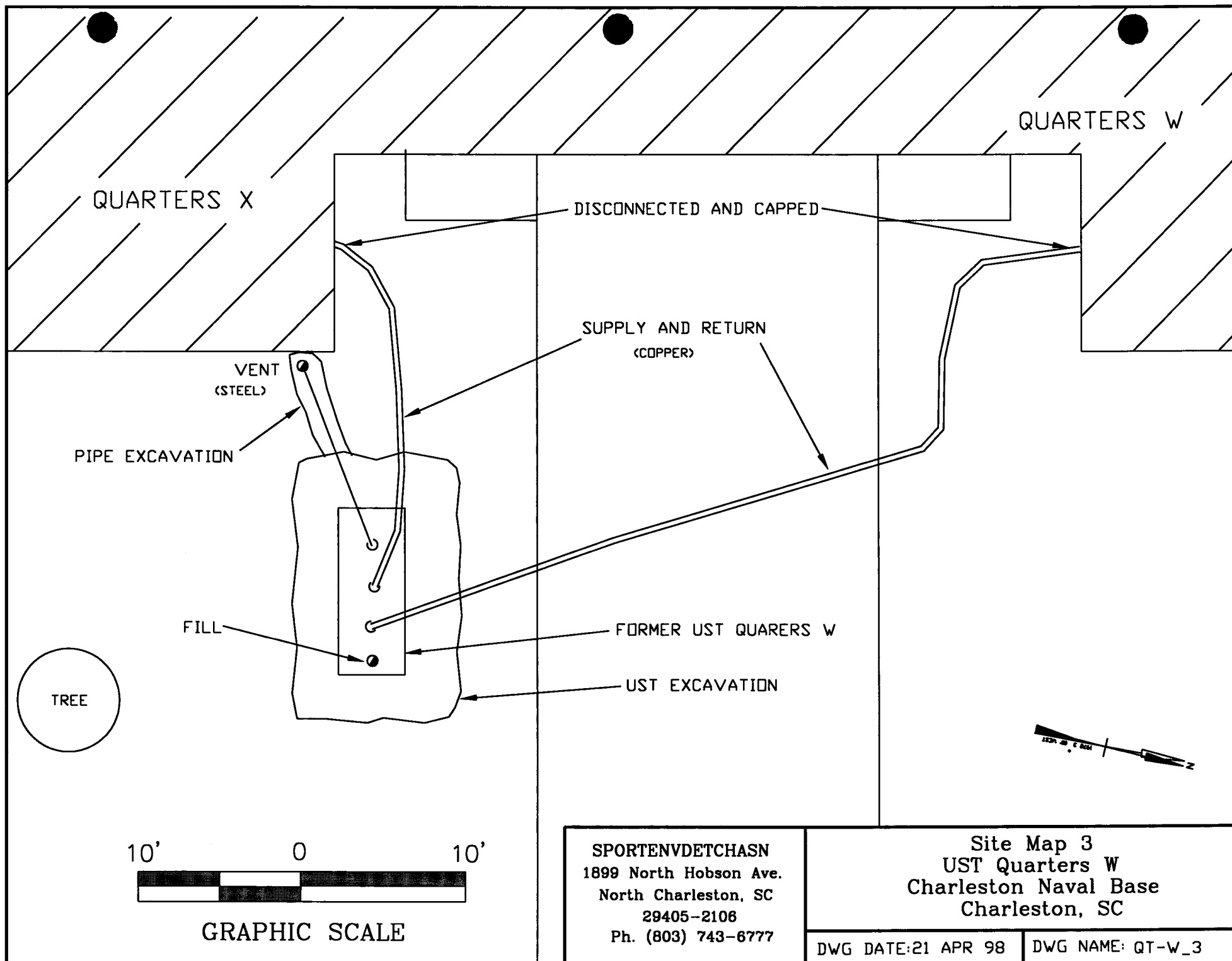
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?		X
	If yes, indicate type of receptor, distance, and direction on site map.		
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?		X
	If yes, indicate type of well, distance, and direction on site map.		
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system?		X
	If yes, indicate the type of structure, distance, and direction on site map.		
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? [storm drain]	X	
	If yes, indicate the type of utility, distance, and direction on the site map.		
E.	Has contaminated soil been identified at a depth of less than 3 feet below land surface in an area that is not capped by asphalt or concrete?		X
	If yes, indicate the area of contaminated soil on the site map.		

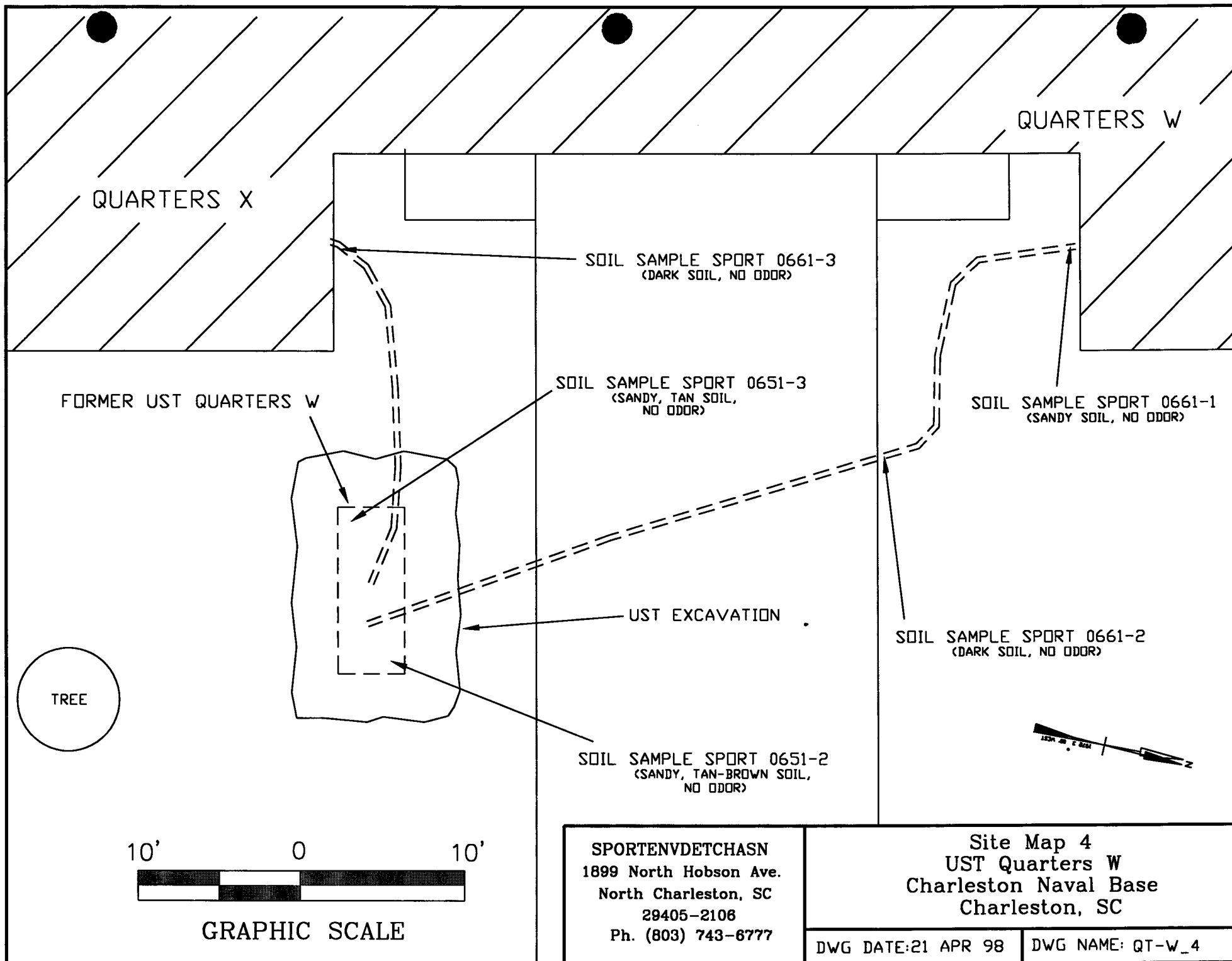
SITE MAP

You must supply a scaled site map. It should include all buildings, road names, utilities, tank and pump island locations, sample locations, extent of excavation, and any other pertinent information.

Site Maps 1, 2, 3, and 4
Photographs 1 and 2







UST Quarters W



Photo 1: UST Quarters W exposed for removal.

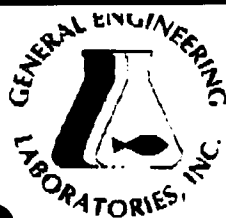


Photo 2: UST Quarters W being readied for transport to the cutting pad.

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

Certified Analytical Results
Chain-of-Custody



GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	QEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 24, 1998

Page 1 of 2

Sample ID : SPORT0651-2
Lab ID : 9804295-02
Matrix : Soil
Date Collected : 04/10/98
Date Received : 04/13/98
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	TCL	04/14/98	1555	120084	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	J	1.49	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	25.3	164	330	ug/kg	1.0	JCB	04/22/98	1651	120121	2
Acenaphthylene	U	0.00	164	330	ug/kg	1.0					
Anthracene	U	27.7	164	330	ug/kg	1.0					
Benzo(a)anthracene	U	61.9	164	330	ug/kg	1.0					
Benzo(a)pyrene	U	48.8	164	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	85.4	164	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	164	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	164	330	ug/kg	1.0					
Chrysene	U	87.8	164	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	164	330	ug/kg	1.0					
Fluoranthene	J	176	164	330	ug/kg	1.0					
Fluorene	U	21.9	164	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	164	330	ug/kg	1.0					
Naphthalene	U	64.1	164	330	ug/kg	1.0					
Phenanthrene	J	173	164	330	ug/kg	1.0					
Pyrene	U	106	164	330	ug/kg	1.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

JPB 04/15/98 0800 120121 3

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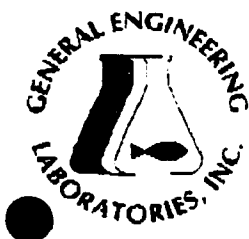


9804295-02

P. 004

TEL: 803-852-5812

APR - 24 '98 (FRI) 17:08 GEN. ENGINEERING



GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GBL	EPI
FL	E87156/87294	E87472/67438
NC	213	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 24, 1998

Page 2 of 2

Sample ID : SPORT0651-2

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	92.4	(30.0 - 115.)
Nitrobenzene-d5	M610	81.9	(23.0 - 120.)
p-Terphenyl-d14	M610	74.1	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	86.4	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	92.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	84.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	86.4	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	92.0	(63.4 - 136.)
Toluene-d8	NAP-8260	84.2	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

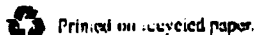
This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

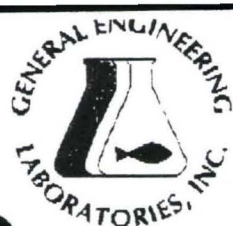

Reviewed By

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29414

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9804295-02





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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 24, 1998

Page 1 of 2

Sample ID : SPORT0651-3
Lab ID : 9804295-03
Matrix : Soil
Date Collected : 04/10/98
Date Received : 04/13/98
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	TCL	04/14/98	1627	120084	1
Ethylbenzene		21.4	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)		13.4	1.00	4.00	ug/kg	1.0					
Naphthalene		77.8	10.0	20.0	ug/kg	10.	TCL	04/15/98	0912	120084	1
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 15 items</i>											
Acenaphthene	U	0.00	164	330	ug/kg	1.0	JCB	04/22/98	1724	120121	2
Acenaphthylene	U	0.00	164	330	ug/kg	1.0					
Anthracene	U	0.00	164	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	164	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	164	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	164	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	164	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	164	330	ug/kg	1.0					
Chrysene	U	0.00	164	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	164	330	ug/kg	1.0					
Fluoranthene	U	0.00	164	330	ug/kg	1.0					
Fluorene	U	0.00	164	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	164	330	ug/kg	1.0					
Naphthalene	U	32.0	164	330	ug/kg	1.0					
Phenanthrene	U	0.00	164	330	ug/kg	1.0					
Pyrene	U	0.00	164	330	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

JPB 04/15/98 0800 120121 3

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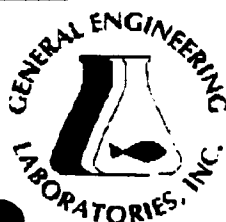
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Laboratory Certifications

STATE	GEL	EPI
FL	887156/87294	887472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 24, 1998

Page 2 of 2

Sample ID : SPORT0651-3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	104.	(30.0 - 115.)
Nitrobenzene-d5	M610	87.3	(23.0 - 120.)
p-Terphenyl-d14	M610	74.3	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	88.8	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	90.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	81.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	88.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	90.4	(63.4 - 136.)
Toluene-d8	NAP-8260	81.6	(72.1 - 137.)

M = Method

Method-Description

M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney

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TEL: 803-852-5812

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Page 1 of 1

CHAIN OF CUSTODY RECORD

804295

[illegible]

Pink = with report



GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 1 of 3

Sample ID : SPORT0661-1
Lab ID : 9804459-01
Matrix : Soil
Date Collected : 04/16/98
Date Received : 04/17/98
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
TEX - 4 items											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	TCL	04/27/98	1801	120951	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	652	1300	ug/kg	4.0	RLC	04/26/98	1457	120496	2
Acenaphthylene	U	0.00	652	1300	ug/kg	4.0					
Anthracene	U	0.00	652	1300	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	652	1300	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	652	1300	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	652	1300	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	652	1300	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	652	1300	ug/kg	4.0					
Chrysene	U	0.00	652	1300	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	652	1300	ug/kg	4.0					
Fluoranthene	U	0.00	652	1300	ug/kg	4.0					
Fluorene	U	0.00	652	1300	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	652	1300	ug/kg	4.0					
Naphthalene	U	0.00	652	1300	ug/kg	4.0					
Phenanthrene	U	0.00	652	1300	ug/kg	4.0					
Pyrene	U	0.00	652	1300	ug/kg	4.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

HDB 04/21/98 0800 120496 3

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29414

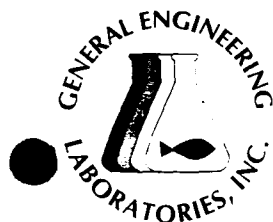
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9804459-01



GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 2 of 3

Sample ID : SPORT0661-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	82.0	(30.0 - 115.)
Nitrobenzene-d5	M610	84.4	(23.0 - 120.)
p-Terphenyl-d14	M610	79.4	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	98.2	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	92.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	93.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	98.2	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	92.4	(63.4 - 136.)
Toluene-d8	NAP-8260	93.8	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

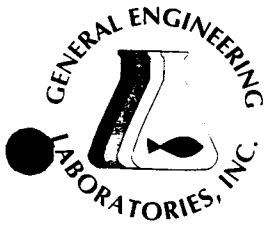
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 3 of 3

Sample ID : SPORT0661-1

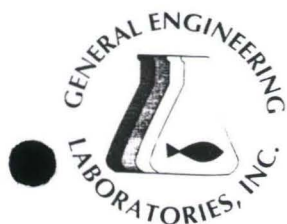
M = Method

Method-Description

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.


Reviewed By





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 1 of 3

Sample ID : SPORT0661-2
Lab ID : 9804459-02
Matrix : Soil
Date Collected : 04/16/98
Date Received : 04/17/98
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	TCL	04/27/98	1832	120951	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	2.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	4.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	328	656	ug/kg	2.0	RLC	04/26/98	1524	120496	2
Acenaphthylene	U	0.00	328	656	ug/kg	2.0					
Anthracene	U	0.00	328	656	ug/kg	2.0					
Benzo(a)anthracene	U	0.00	328	656	ug/kg	2.0					
Benzo(a)pyrene	U	0.00	328	656	ug/kg	2.0					
Benzo(b)fluoranthene	U	0.00	328	656	ug/kg	2.0					
Benzo(ghi)perylene	U	0.00	328	656	ug/kg	2.0					
Benzo(k)fluoranthene	U	0.00	328	656	ug/kg	2.0					
Chrysene	U	0.00	328	656	ug/kg	2.0					
Dibenzo(a,h)anthracene	U	0.00	328	656	ug/kg	2.0					
Fluoranthene	J	342	328	656	ug/kg	2.0					
Fluorene	U	0.00	328	656	ug/kg	2.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	328	656	ug/kg	2.0					
Naphthalene	U	0.00	328	656	ug/kg	2.0					
Phenanthrene	U	0.00	328	656	ug/kg	2.0					
Pyrene	U	0.00	328	656	ug/kg	2.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

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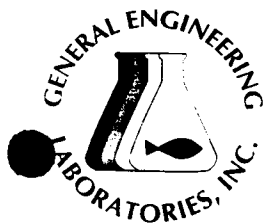
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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 2 of 3

Sample ID : SPORT0661-2

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	79.3	(30.0 - 115.)
Nitrobenzene-d5	M610	86.6	(23.0 - 120.)
p-Terphenyl-d14	M610	86.3	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	91.6	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	89.6	(63.4 - 136.)
Toluene-d8	BTEX-8260	87.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	91.6	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	89.6	(63.4 - 136.)
Toluene-d8	NAP-8260	87.8	(72.1 - 137.)

M = Method

Method-Description

M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

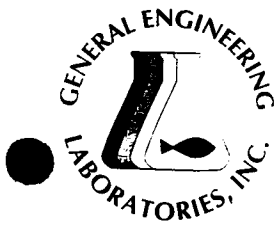
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 3 of 3

Sample ID : SPORT0661-2

M = Method

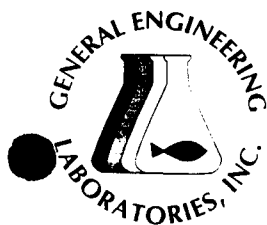
Method-Description

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 1 of 3

Sample ID : SPORT0661-3
Lab ID : 9804459-03
Matrix : Soil
Date Collected : 04/16/98
Date Received : 04/17/98
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	TCL	04/27/98	1902	120951	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	325	650	ug/kg	2.0	RLC	04/26/98	1551	120496	2
Acenaphthylene	U	0.00	325	650	ug/kg	2.0					
Anthracene	U	0.00	325	650	ug/kg	2.0					
Benzo(a)anthracene	U	0.00	325	650	ug/kg	2.0					
Benzo(a)pyrene	U	0.00	325	650	ug/kg	2.0					
Benzo(b)fluoranthene	U	0.00	325	650	ug/kg	2.0					
Benzo(ghi)perylene	U	0.00	325	650	ug/kg	2.0					
Benzo(k)fluoranthene	U	0.00	325	650	ug/kg	2.0					
Chrysene	U	0.00	325	650	ug/kg	2.0					
Dibenzo(a,h)anthracene	U	0.00	325	650	ug/kg	2.0					
Fluoranthene	U	0.00	325	650	ug/kg	2.0					
Fluorene	U	0.00	325	650	ug/kg	2.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	325	650	ug/kg	2.0					
Naphthalene	U	0.00	325	650	ug/kg	2.0					
Phenanthrene	U	0.00	325	650	ug/kg	2.0					
Pyrene	U	0.00	325	650	ug/kg	2.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

HDB 04/21/98 0800 120496 3

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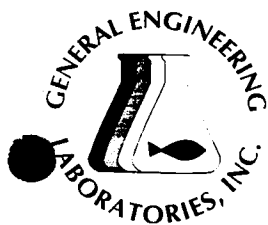
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GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 2 of 3

Sample ID : SPORT0661-3

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	85.0	(30.0 - 115.)
Nitrobenzene-d5	M610	101.	(23.0 - 120.)
p-Terphenyl-d14	M610	95.7	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	97.4	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	89.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	91.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	97.4	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	89.2	(63.4 - 136.)
Toluene-d8	NAP-8260	91.6	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

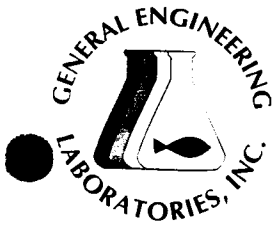
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: April 28, 1998

Page 3 of 3

Sample ID : SPORT0661-3

M = Method

Method-Description

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney



N70C 00197

General Engineering Lab
2040 Savage Road
Charleston, South Carolina 29417
P.O. Box 30712
(803) 556-8171

CHAIN OF CUSTODY RECORD

Page 1 of 1

9804459

Client Name/Facility Name SPORTENV DETCHASN		SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods																Use F or P in the boxes to indicate whether sample was filtered and/or preserved		
Collected by/Company SPORTENV DETCHASN		# OF CONTAINERS	pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type	BETTER MONITORING	PAH	Remarks
SAMPLE ID	DATE																			
-01	SPORT 6661-1	4/16/98	13:46	✓	✓	2												X	X	qtrs-W-PPg-1
-02	SPORT 6661-2	4/16/98	13:49	✓	✓	2												X	X	qtrs-W-PPg-2
-03	SPORT 6661-3	4/16/98	13:56	✓	✓	2												X	X	qtrs-W-PPg-3
-04	SPORT 6661-4	4/16/98	14:17	✓	✓	2												X	X	qtrs-R-PPg-4
-05	SPORT 6661-5	4/16/98	14:30	✓		2												X	X	qtrs-Q-PPg-5
-06	SPORT 6661-6	4/16/98	14:36	✓	✓	2												X	X	qtrs-Q-PPg-6
-07	SPORT 6661-7	4/16/98	14:50	✓	✓	2												X	X	qtrs-T-PPg-7
-08	SPORT 6661-8	4/16/98	14:54	✓	✓	2												X	X	qtrs-T-PPg-8
-09	SPORT 6661-9	4/16/98	15:06	✓	✓	2												X	X	qtrs-S-PPg-9
-10	SPORT 6661-10	4/16/98	15:12	✓	✓	2												X	X	qtrs-S-PPg-10
-11	SPORT 6661-11	4/16/98	13:00	✓		1												X		Soil Trip Blank

Relinquished by: <i>Landy Bell</i>	Date: 4/17/98	Time: 0812	Received by: <i>W.R. Hiers, Jr.</i>	Date: 4/17/98	Time: 1325	Received by: <i>Randy Reed</i>
Relinquished by: <i>Randy Reed</i>	Date: 4/17/98	Time: 1355	Received by lab by: <i>Donna Franco</i>	Date: 4/17/98	Time: 1355	Remarks:

White = sample collector

Yellow = file

Pink = with report

Attachment III

Certificate of Disposal (tank)

UST Certificate of Disposal

CONTRACTOR

Supervisor of Shipbuilding Conversion and Repair
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

UST Quarters W; Quarters W, 1455 Hobson Ave., Charleston SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

Fuel oil

SIZE (GAL)

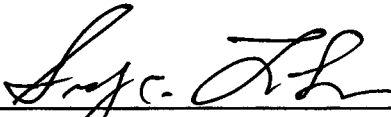
1,000 gal

CLEANING/DISPOSAL METHOD

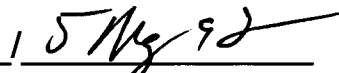
The tank was cut open on both ends, cleaned with a steam cleaner, and disposed of as recyclable scrap metal.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of as recyclable scrap metal.



Sidney C. Ladson



(Date)